



MAKE A BOX AND WIN

MATERIALS YOU WILL NEED

- **CHERRY**
6ft of 5x1/2in sawn cherry, planed down to 1/2in
- **MAPLE**
3ft of 3x1/2in sawn maple, planed down to 1/2in and 1/4in for the tray, liners and dividers
- **PLY**
11x5x1/2in maple faced ply for the tray base

We have more than £1100 worth of Elu power-tools to give away. All you have to do is make a simple box using our step-by-step instructions

If you need an excuse to start a project there can't be much better an incentive than the chance to win an Elu router, or an Elu sander, or an Elu biscuit jointer, or even a Triton workcentre. All you need do is make a box. You

don't even have to think up a fancy design because we will be awarding an Elu MOF96E router to the best copy of the box shown here.

Alternatively you might want to produce a box of some other shape and design. That's fine. We'd like to see as many different types of box as you can think of. In fact we will be displaying all the entries at the Good Woodworking Show at Alexandra Palace from 24-27th November.

While the best copy of our box wins the router, the best box to your design will be awarded a Triton workcentre with stand. Second prize is an Elu belt sander worth £256. With the sander you also win an inversion stand, worth more than £58. That way you can convert the sander into a

stationary machine that's ideal for cleaning up the dovetails on the box we've made for you this month. If you come third you still win an MBR100 biscuit jointer worth £242.

What Can I Make?

The box you can copy is pretty simple. It combines two jointing techniques, with dovetailed corners on the main carcass and mitres for the lining and tray. It will take anything from jewellery to drill bits. If you want to make the box to copy for our competition, but need to change the tray arrangement, go ahead. That does not contravene the rules.

Neither is there a special need for you to use the same wood as we have. You might prefer to use oak, walnut, or even softwood.

How to Make the Box

1 Start by planing the timber for the main carcass. To make it easy this is



The lid is cut from the box through one of the pins. Note the chamfer on the cut



The top panel fits loosely in grooves in the sides and ends of the box



The mitred lining inside the box acts as a support for the tray

all the same thickness. If you do not have a planer-thicknesser, send off for our exclusive cutting list kit. All the parts are planed to thickness and width. All you have to do is cut the joints, add the decoration, assemble



EXCLUSIVE design
COMMISSIONED BY
GOOD WOODWORKING

Making the box



Start the dovetailing by marking the tails with a template and then cutting them with a tenon or dovetail saw, keeping always to the waste side

3 Use a dovetail template to mark the tails on the ends (B). You'll probably find it

4 Hold each end piece (B) in the vice and cut down the tail, keeping to the waste side of the line. It is easiest if you hold the work at a slight angle so that you are cutting vertically. Make sure you stop just short of the marked shoulder line. Then use a coping saw to remove the

Rout the groove for the top after cutting the tails, but before removing the waste

Glue up the mitred tray using masking tape or rubber band as a cramp

5 You use the tails to mark out the pins on the sides

6 Hold the side piece in the vice and mark the pins on the end-grain from the tails. You will learn with

Plan of tray

Dimensions: 268mm (total width), 8mm (top edge), 126mm (left edge), 33mm (top flange), 33mm (bottom flange), 33mm (bottom flange), 47mm (left end), 70mm (middle section), 70mm (middle section), 47mm (right end), 151mm (total length), 96mm (left edge), 128mm (total width), 12mm (top flange), 30mm (middle section), 6mm (middle section), 12mm (bottom flange).

Section through box end

Dimensions: 12mm (top flange), 30mm (middle section), 6mm (middle section), 12mm (bottom flange), 128mm (total width), 96mm (left edge), 12mm (top flange), 30mm (middle section), 6mm (middle section), 12mm (bottom flange).

Side elevation of box

Dimensions: 280mm (total width), 291mm (total length), 32mm (top flange), 64mm (bottom flange), 12mm (top flange), 12mm (bottom flange), 151mm (total length), 12mm (top flange), 12mm (bottom flange).

Plan of box from below

Dimensions: 280mm (total width), 291mm (total length), 32mm (top flange), 64mm (bottom flange), 12mm (top flange), 12mm (bottom flange), 151mm (total length), 12mm (top flange), 12mm (bottom flange).

View of joints from end

Dimensions: 12mm (top flange), 5mm (middle section), 22mm (middle section), 5mm (middle section), 22mm (middle section), 10mm (middle section), 22mm (middle section), 5mm (middle section).

End view of box

Dimensions: 5mm (top flange), 22mm (middle section), 5mm (middle section), 5mm (middle section), 22mm (middle section), 10mm (middle section), 22mm (middle section), 5mm (middle section).

View of joints from the side

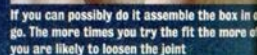
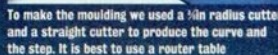
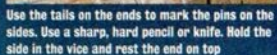
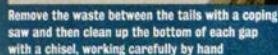
Dimensions: 5mm (top flange), 22mm (middle section), 5mm (middle section), 5mm (middle section), 22mm (middle section), 10mm (middle section), 22mm (middle section), 5mm (middle section).

DIFFICULTY: Novice
TIME: 20 hours
TYPE: Boxmaking

■ **HANDSAW**
For cutting off the lid

THE
**Good
Woodworking**

EXHIBITION
ALEXANDRA PALACE, LONDON

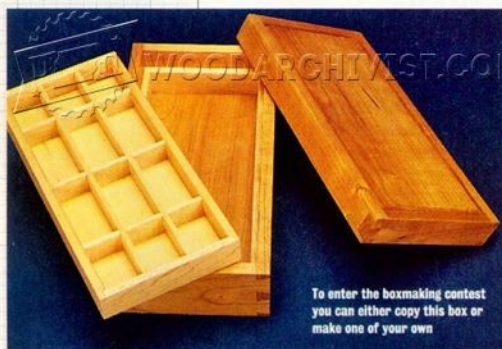


Jargon Busting

Pin
One part of a dovetail joint. On the pin you can see the taper by looking at the end-grain. On this box the pins are on the sides

Tail
The part of a dovetail that gives the joint its name. You can see the taper on the tail by looking at the face of the ends on this box. This ties the joint together. If you are using the dovetail to strengthen a carcass, rather than just a joining mechanism, have the tail in line with the force. For instance on a traditional toolbox, with a handle on the top, have the tails on the ends so that when you lift the box the base and top are locked in place

Box made brilliantly by Pete Martin



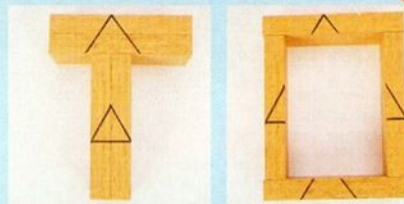
To enter the boxmaking contest you can either copy this box or make one of your own

experience that by altering the position of the tails when marking the pins you can adjust the tightness of fit.

Use a knife and a small square to mark down the pins to the shoulder line. Then use a dovetail saw to cut down the pins as you did the tails. Of course you don't need to angle the wood in the vice this time as the cuts are vertical. Remove the waste and clean up.

7 Ideally the joint fits together first time. The more often you try the fit the more likely you are to loosen the joint. Now use a router to cut the groove for the top and the base. You could use a combination plane for this. Position the groove just in the first tail. You can run the groove the full length of the sides but it must stop short of the end of the tails on the ends otherwise it will show. This can be tricky as the router can chip the tail if you get too near the end. If

Foolproof box setting out



Draw triangles on the sides and ends so that you can identify which part is which when the box is assembled. You cannot assemble it any other way

With hand-cut dovetails you need to know which part matches which because you use the tails on one side to mark out the pins on the ends. Bring the sides and ends together and draw triangles on the edges, before you start jointing, to identify which part is which.

possible use a router table with stops so that you cannot overrun out of the tail.

8 Now you can cut out the panels for the top and base. These are narrow enough to be made from one solid piece. Cut a rebate on the base so that the tongue fits into the groove. You could do this on the top to produce a flush surface, or you can work a moulding around the edge of the top face for decoration. We have cut a radius to emphasise the panel. This is an ideal area for adding decoration.

9 Clean up the inside faces of the box and all around the top and

base before assembly. Glue and cramp up the whole carcass, making sure the top and base are left loose to allow for movement. Once the glue has set clean up the outside, planing and sanding back any excess on the ends of the pins and tails.

10 Now cut the lid of the box away through the wider pin. Mark the line up first all the way around and hold the box in a vice. Work your way round slowly and carefully. It is very easy to drift from the line if you start to angle the saw. You will probably need to use a handsaw for a box this size as the back might get in the way with a tenon saw.

You may find that you need to push a little wedge into the cut to keep the lid and box apart as you go. Once the two parts are

separated use a block plane for cleaning up the edges and adding a little chamfer here and there.

11 The tray is a push fit inside the box and sits on the lining. In fact the tray itself locates the lid on the base of the box. We have made this one with mitred corners, though you may have other ideas. For speed plane up one long length of the sides (D) and ends (E) the tray and liner at the same time. Then cut that in half and work a rebate along the bottom edge of the tray pieces to take the base (F).

12 Cut the mitres on the tray sides and ends using a mitre saw if possible. These are accurate and simple to use. Owners of radial arm saws and benchsaws will doubtless disagree and favour their mechanised versions. To make life easier use ply for the base of the tray. That way you can glue the base into rebate, assembling the sides and ends around the base. This helps for cramping up which can be tricky with mitres. Band cramps, that work like roof rack straps, are great for mitres.

13 Once the glue has set off, clean the tray and measure up for the divide (G and H). These can be positioned how you like. They do not even have to be glued so you can adjust them. You can

How to assemble and finish off the box



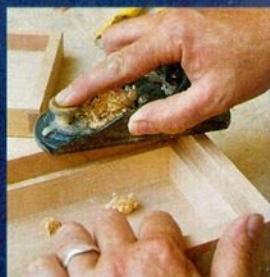
Once the glue has set divide the lid from the body of the box. This is best done with a tenon saw, but the back of the saw can get in the way at times



Hopefully the lid will separate cleanly from the body of the box. It should be obvious which way it fits on, but mark it just in case of confusion



You can use a sophisticated mitre saw or radial arm saw for the lining and tray joints, but a mitre block or box will do if you go carefully

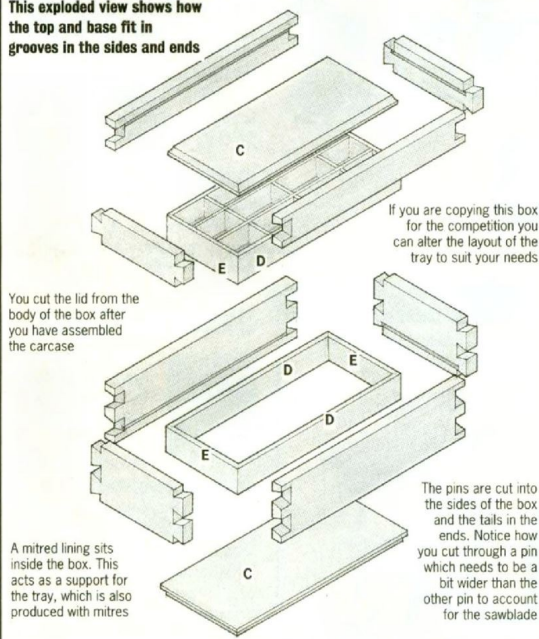


Clean up the edges of the box body and the lid using a block plane. Keep checking that the two parts fit together neatly. Do not remove too much

THE
Goo
Woodwo
— EXHIBIT
ALEXANDER P.

Exploded view of the box and tray

This exploded view shows how the top and base fit in grooves in the sides and ends



use a halving joint for the dividers or you can glue them in independently.

display at the Good Woodworking Show from 24th-27th November.

14 The liners do not really need to be glued in place. Cut the mitres and slip the lining into the box. Finish the box (we used shellac sanding sealer and wax), and send it to us for judging and

Kit of box parts

We can supply you with all the parts to make the box. No travelling to the timber yard, hoping they will plane the wood for you. Just delivered to your door, ready for jointing. All you need to do is send us a cheque for £44.95 (made out to Future Publishing) to Box Kit, Good Woodworking, 30 Monmouth Street, Bath BA1 2BW with your name and address.

Cutting List for the Box

	MATERIAL	QTY	LENGTH	WIDTH	THKNS
A Side	Cherry	2	291mm 11 $\frac{1}{4}$ in	99mm 3 $\frac{3}{4}$ in	12mm $\frac{1}{2}$ in
B End	Cherry	2	151mm 5 $\frac{7}{8}$ in	99mm 3 $\frac{3}{4}$ in	12mm $\frac{1}{2}$ in
C Base and top	Cherry	2	280mm 11in	140mm 5 $\frac{1}{2}$ in	12mm $\frac{1}{2}$ in
D Tray and liner side	Maple	4	268mm 10 $\frac{3}{4}$ in	30mm 1 $\frac{1}{4}$ in	8mm $\frac{3}{4}$ in
E Tray and liner end	Maple	4	128mm 5in	30mm 1 $\frac{1}{4}$ in	8mm $\frac{3}{4}$ in
F Tray base	Faced ply	1	260mm 10 $\frac{1}{4}$ in	120mm 4 $\frac{3}{4}$ in	6mm $\frac{1}{4}$ in
G Long tray divider	Maple	2	250mm 9 $\frac{3}{4}$ in	23mm $\frac{1}{2}$ in	6mm $\frac{1}{4}$ in
H Short tray divider	Maple	3	110mm 4 $\frac{1}{4}$ in	23mm $\frac{1}{2}$ in	6mm $\frac{1}{4}$ in

Cutting lists always give the full length of a piece including the joint, but not wastage. Allow at least 25mm (1in) extra for length and 5mm ($\frac{3}{16}$ in) on the width and thickness of sawn stock